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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/803,941 | 03/13/2001 | Koichi Ikeshima | WATK:210 | 9068 |
| 7590 04/22/2004 PARKHURST & WENDEL, L.L.P. Suite 210 1421 Prince Street Alexandria, VA 22314-2805 | | | EXAMINER DICUS, TAMRA | |
| | | | ART UNIT 1774 | PAPER NUMBER |

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/803,941

Applicant(s)

IKESHIMA, KOICHI

Examiner

Tamra L. Dicus

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The 102(b) rejections over Kumazawa et al. and Machida et al. are withdrawn due to Applicant's arguments that Machida does not have a fully filled in circumferential outer wall. The 103(a) rejection over Machida et al. in view of USPN 5,629,067 to Kotani and Machida et al. in view of USPN 5,629,067 to Kotani and further in view of USPN 5,346,722 to Beauseigneur et al. are withdrawn due to Applicant's arguments that Kotani does not have a fully filled in circumferential outer wall.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The disclosure contains no description on how a slurry "is applied". Hence, one skilled in the art would not be apprised on how to make the invention. The Examiner takes the position that any slurry that is adhered to a ceramic body will create the claimed invention.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2 and 4-6 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5629067 to Kotani.

Kotani teaches a ceramic honeycomb structural body having an outer portion and center portion comprising cells, where the inner portion of the ceramic honeycomb structural body contains cordierite that is dried and fired, (col. 4, lines 55-65) completely filling in the outer circumferential wall portion. See Figures 4 and 5. The same radial direction is taught in col. 3, line 30-col. 4, line 25. Since the materials and process used are the same, the characteristics of claim 1 would be expected to be the same absent any evidence to the contrary. Kotani teaches a ceramic honeycomb structure body comprising cells (through-holes surrounded by partition walls) and an outer wall portion (see Fig. 5), where both the inner and outer walls are of crystalline cordierite having the same thermal expansion (see col. 7, lines 15-37). Kotani further teaches an outer coating formed on the outer surface of the body to reduce cells from cracking (see col. 2, lines 28-38). Kotani discloses the outer wall being thicker than the inner wall and the number of cells per unit area requirements of instant claims 4-5 in Example 1, Figures 4-5, and col. 6, lines 60+. At col. 8, lines 38-50, Kotani explains the outer coating serves as a reinforcing layer to yield excellent heat and thermal shock resistance. The phrase “stress is applied to the inside partition wall from the outer...wall” is a process limitation and is given little weight. Product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. Patentability of an article depends on the article itself and not the method used to produce it (see MPEP 2113). Furthermore, the invention defined by a product-

by-process invention is a product NOT a process. *In re Bridgeford*, 357 F. 2d 679. It is the patentability of the product claimed and NOT of the recited process steps which must be established. *In re Brown*, 459 F. 2d 531. Both Applicant's and prior art reference's product are the same.

5. Regarding claim 2, Kotani further teaches a honeycomb structure body where the outer wall portion of the structure and the structure can be the same (corderite) or different (corderite and ceramic fibers) material (see col. 3, line 40-col. 4, lines 25).

6. Regarding claim 6, at col. 2, lines 38+, an open frontal area of 86% or more is shown in Figure 1.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,629,067 to Kotani.

9. Kotani essentially teaches the claimed invention. Regarding instant claim 7, while Kotani does not teach the specific value of bulk density being 0.26 g/cm³ or less, Kotani does teach the wall thickness is varied to gain desired bulk density at col. 1, lines 25-34 and col. 2, lines 5-7 in order to reduce the heat capacity and effectively control exhaust emissions thereby improving

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the overall efficiency of a catalytic converter. Therefore, bulk density is an optimizable feature as taught by Kotani. It would be obvious to a person having ordinary skill in the art to modify the honeycomb structure taught by Kotani to include the bulk density 0.26 g/cm^3 or less because Kotani teaches the wall thickness is varied to gain desired bulk density at col. 1, lines 25-34 and col. 2, lines 5-7 in order to reduce the heat capacity and effectively control exhaust emissions thereby improving the overall efficiency of a catalytic converter.

10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,629,067 to Kotani and further in view of USPN 5,346,722 to Beauseigneur et al.

Kotani substantially discloses the claimed invention except for a partition wall thickness of less than 0.1 mm. Beauseigneur discloses several examples of honeycomb structures having a range of the numbers of cells per unit area values and typical wall thickness requirements of claims 3-5 in catalytic converter applications at col. 3, lines 50-60. It would be obvious to a person having ordinary skill in the art to modify the honeycomb structure taught by Machida and Kotani to include the desired requirements of Beauseigneur to produce a desired honeycomb structure that exhibits efficient extruder or flow rates.

Response to Argument

Applicant's arguments filed 03-18-04 have been fully considered but they are not persuasive. The declarant states that Kotani shows a TEC differential, however, provides no room of giving substantial stress to the inner from the outer portion/wall because of firing. However, as previously provided, that "stress is applied to the inside partition wall from the outer...wall" is a process limitation and is given little weight. The same structure and materials are provided by

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the prior art, therefore, the same article is taught. Moreover, the TEC values of the instant application mirror the TEC values of Kotani, and provide the same outer wall versus inner wall TEC differential. Applicant, during the most recent interview and in the response, argued the 112, alleging that coating artisans know how to apply slurry to a surface. While the Applicant points to this well-known fact, the Applicant does not teach how **he** does so. Per page 7, lines 10-19 of the disclosure of the instant application, the TEC is higher **when** a cordierite slurry is applied to the outside and fired. There is no mention of how it is applied, so the Examiner takes the position that the Applicant has failed to disclose the invention and the body being dipped and fired is the same and the TEC differential remains inherent-hence the motivation for the 112 1st paragraph rejection. Since the same materials and places of application are the same, one can only come to one conclusion, the TEC differential is present.

Beauseigneur is still used to teach the exact same materials involved, a honeycomb structure and an alumina/catalytic coating on the outside and fired.

The declaration was considered during the interview explained by Applicant to denote what incomplete vs. complete outer circumferential wall portions are, hence the rationale for withdrawing the prior rejections.

Conclusively, as explicitly explained, the same material, cordierite crystalline, is adhered in the same manner, the body being dipped-applied to the outside wall, and hence a higher TEC on the outside than the inside is taught.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USPN 6060148 to Matsuybara et al. teaches ceramic honeycomb structures. USPN

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6291379 to Noguchi et al. teaches the process for production of coderite-based ceramic honeycomb structures.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is 571-272-1519. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 13, 2004

Tamra L. Dicus
Examiner
Art Unit 1774

CYNTHIA H. KELLY
SUPERVISORY PATENT EXAMINER
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